



Bulletin 1370AR/NR

Pole Piece Fixture Kit

Description The Pole Piece Fixture Kit is designed to aid SCR replacement in the 420A through 980A Bulletin 1370AR/NR. Included in the kit is a holding fixture and the items needed to properly replace the SCR(s).

Installation **IMPORTANT:** The following procedure should only be performed by qualified personnel who are familiar with the Bulletin 1370AR/NR Drive and its operation.

The following components are contained in the kit:

Quantity	Description	Figure 2 Reference No.
2	Contact Plate Assembly	4
2	Contact Plate	3
2	Contact Plate Guide	1
8	Screws, 8-32 x .375 Rd. Hd.	2
1	Base Plate	5
1	Plate Guide	6
2	Rail Bracket	7
1	Contact Plate Rail	8
1	PIP Gage	13
1	SCR Hook	14 or 16
2	Screw, 5/16-18 x 1.5 Hex Hd.	9
4	Screw 1/4-20 x .50 Hex Hd.	10
9	Screw, 8-32 x .75 Flat Hd.	11
4	Washer, Flat 1/4"	15

Required Tools

Common and Phillips Screwdrivers
1/2" Torque Wrench
Ruler

The following procedure provides the steps necessary for fixture assembly and SCR replacement.



WARNING: To avoid an electrical shock hazard, ensure that power has been removed to the Drive, prior to removing the malfunctioning Pole Piece.



CAUTION: The Pole Piece is heavy and must be handled with care to guard against possible rear panel component damage.

Installation
(Continued)

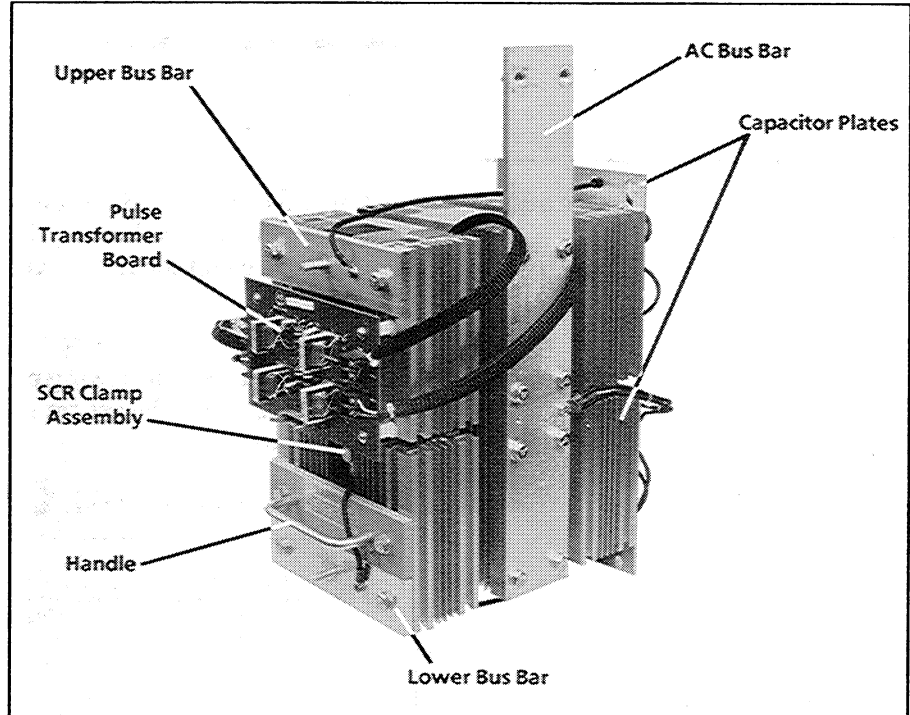


Figure 1 – Pole Piece Components

- 1. Using the nine 8-32 x .75 screws supplied, secure the Plate Guide (6) to the Base Plate (5).
- 2. Secure the two Rail Brackets (7) to the base using four 1/4-20 x .5 screws and 1/4" flat washers.
- 3. Position the Pole Piece as shown in Figure 1. Label and remove the gate leads connected to terminal blocks TB1, TB2, TB3 and TB4 of the Pulse Transformer Board. Remove the Pulse Transformer Board.
- 4. Label and remove the two wires (and wire ties) at the AC Bus which come from the rear capacitor plates.
- 5. Remove the two capacitor mounting plates from the rear of the unit by loosening the eight hex head screws and sliding each plate out.
- 6. Remove the wires from the Upper and Lower Bus Bars.
- 7. Remove the Bus Bars and Handle by loosening the two screws on each bar and sliding out.
- 8. Remove the AC Bus by loosening the eight hex head screws and sliding the bar out.
- 9. Slide the black insulating guard off.
- 10. Place the Pole Piece on the fixture. Carefully position the Pole Piece until it is properly seated on the locating slots. See Figure 2.
- 11. Assemble the two Contact Plate Assemblies (4) as shown in Figure 2. Position the assemblies on top of the heat sinks as shown.
- 12. Insert the Contact Plate Rail (8) into the Rail Bracket (7) slots.

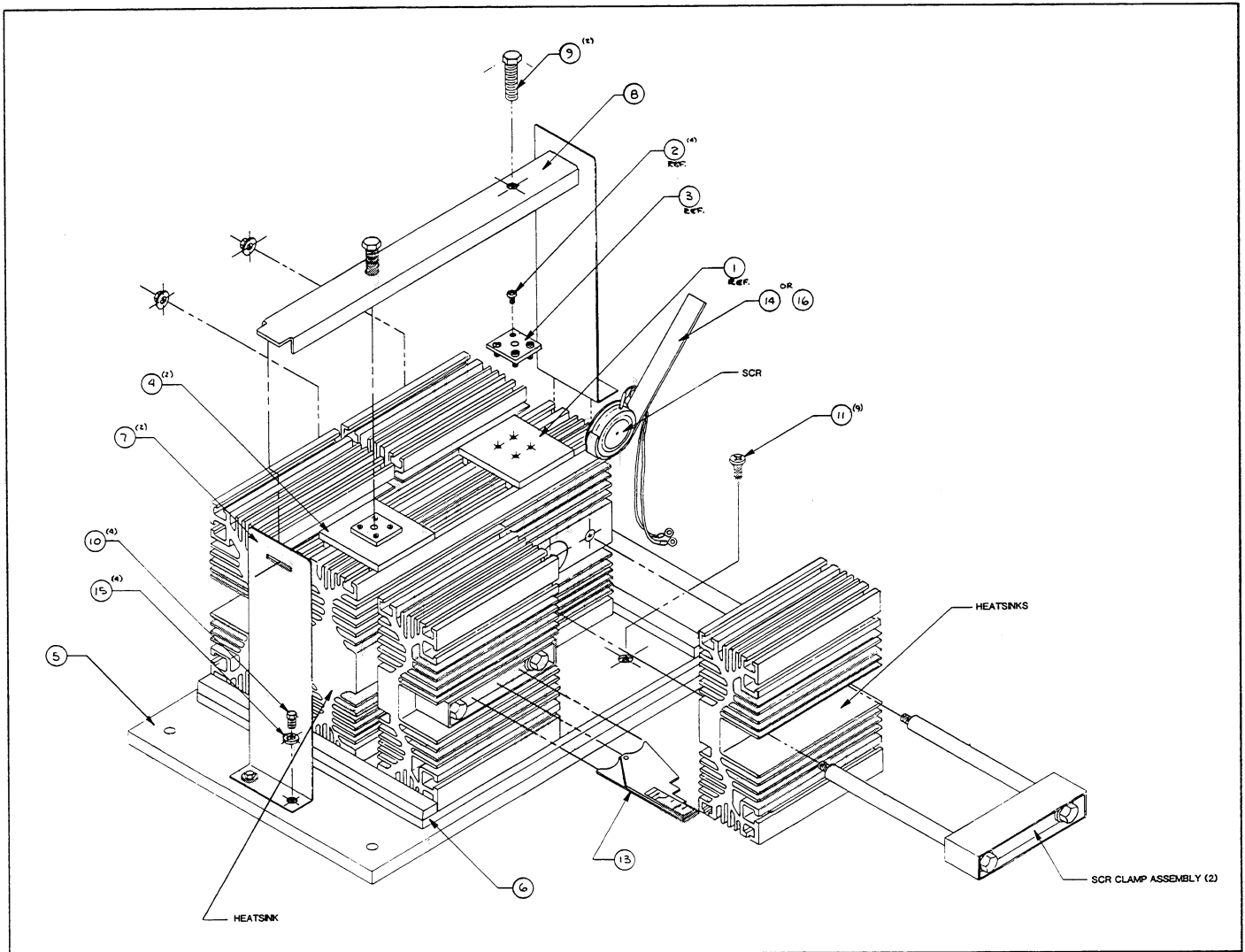


Figure 2 – Pole Piece Assembly

Installation
(Continued)

- 13. Insert (but do not tighten) the two 5/16-18 x 1.5 screws (9) into the Contact Plate Rail. Carefully position the Contact Plate Assemblies under the screws and tighten, checking for proper alignment.
- 14. Identify the SCR(s) that are to be replaced. While holding the SCR clamp nuts, alternately loosen (in 1/4 turn increments to prevent uneven loosening) the two hex head screws of the appropriate SCR Clamp Assembly. Loosen the screws until they are flush with the surface of the nuts.

IMPORTANT: The two screws of the SCR clamp assembly must be loosened equally to guard against possible SCR damage. Additionally, care should be taken when loosening or tightening the clamp screws to prevent damage to the black insulator.

- 15. Note the positioning and orientation of the SCR and leads. If necessary, make a diagram to assure proper reassembly.

Installation
(Continued)

- 16. Using the SCR Hook (14 or 16) carefully lift the SCR up and out by separating the heat sink assemblies slightly until the pins on the SCR and heat sink are visible.
- 17. Apply a thin even layer of silicone heat sink compound such as General Electric type SF 1154 or equivalent to the anode and cathode surfaces of the new SCR.
- 18. Correctly position the new SCR on the hook and lower into place, while carefully aligning the pins and recesses. Slowly push the heat sinks together. Ensure that pin alignment of the second SCR is correct.
- 19. Gradually and evenly (alternating with 1/4 turn increments) tighten the SCR clamp, checking pin alignment. Squareness of the heat sinks should be checked often to assure even tightening of the clamp. Using a ruler, measure both sides of the heat sink assembly from front to back. Gradually tighten (or loosen) the appropriate side until heat sinks are square.
- 20. Locate the supplied PIP Gauge (13) and calibrate on a hard flat surface such as the base plate. The edges of the gauge should align as shown in Figure 3 (A).

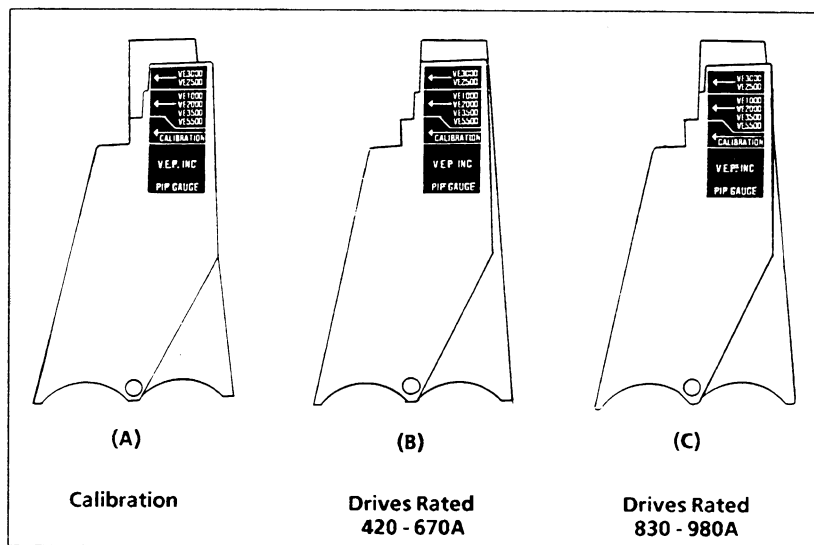


Figure 3 – PIP Gauge Settings

- 21. Locate the Drive nameplate and obtain the rating for the DC Output Amps. Select the proper PIP gauge diagram in Figure 3.
- 22. Position the PIP Gauge on the face of the SCR Clamp Assembly and press firmly until all three points of the gauge touch the clamp surface as shown in Figure 2.
Compare the gauge reading with the diagram shown in Figure 3. Tighten or loosen the clamp screws evenly until the proper gauge indication is achieved.

Installation
(Continued)

Reassembly

Remove the Pole Piece from the fixture and position it as shown in Figure 1. Reassemble in reverse order using the steps below as a guide.

- 1. Black Center Guard
- 2. AC Bus Bar (Slide from top. Bottom of bar must be flush with bottom of unit). Bus Bar bolt torque requirement is 125 in.-lbs.
- 3. Handle
- 4. Upper and Lower Bus Bars and wires. Bus Bar bolt torque requirement is 125 in.-lbs.
- 5. Capacitor mounting plates (top edge of plate must be flush with top of heat sink).
- 6. Route and connect wires from capacitor plates to AC Bus Bar. Use wire ties to hold wires.
- 7. Place Pulse Transformer Board on standoffs and secure. When tightening, screws should only be finger tightened to prevent possible damage to the standoffs.
- 8. Replace Pole Piece in Drive.

Notes



ALLEN-BRADLEY
A ROCKWELL INTERNATIONAL COMPANY

Drives Division
Cedarburg, Wisconsin 53012-0005

AB Parts